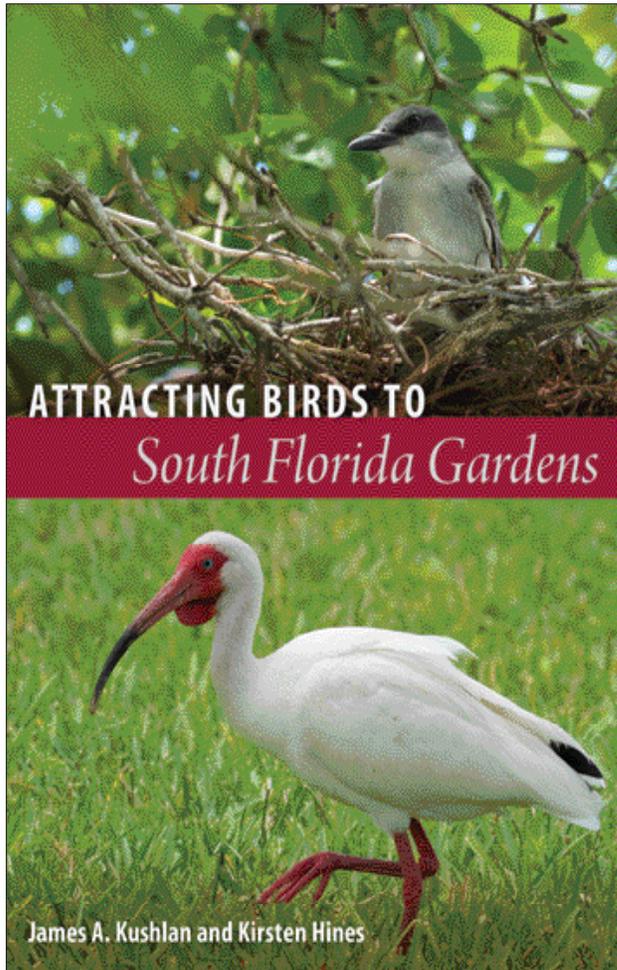


WHAT PEOPLE ARE SAYING



“A step-by-step guide on how you can create a bird garden that not only benefits birds but increases your enjoyment of your yard, patio, or balconies. No space is too small to help birds, and this book tells you how to do it.”
—**Stephen D. Pearson, director, University of Miami’s John C. Gifford Arboretum**

“South Florida is a unique and spectacular environment for both birding and gardening, with geographic, climatic, and biologic factors unlike any other region of the country. Kushlan and Hines draw upon their many years of creating, observing, and refining bird habitat in South Florida in this thorough and enjoyable guide.”
—**Carl Lewis, director, Fairchild Tropical Botanic Garden**

“For all south Floridians concerned about vanishing stopover habitat and hoping to contribute to the re-greening of Florida in their own backyards, this book is essential reading.”—**Brian Rapoza, author of *Birding Florida***



For more information, contact the UPF Publicity Desk:
(352) 392-1351 x 233 | publicitydesk@upf.com

Available for purchase from booksellers worldwide.
To order direct from the publisher, call the University Press of Florida: 1 (800) 226-3822.

**ATTRACTING BIRDS TO
SOUTH FLORIDA GARDENS**
JAMES A. KUSHLAN AND KIRSTEN HINES

978-0-8130-4965-6
Paper \$29.95
305 color illus., 9 maps
UNIVERSITY PRESS OF FLORIDA - OCTOBER 2014



JAMES A. KUSHLAN is an ornithologist, educator, writer, and conservationist. His professional career has encompassed being research associate at the Smithsonian Institution, director of the USGS Patuxent Wildlife Research Center, professor and biology department chair at The University of Mississippi, professor of biology at Texas A&M-Commerce, and wildlife biologist at Everglades National Park. He has been president of the American Ornithologists' Union and the Waterbird Society, and editor of the journal *Waterbirds*. He was chair and senior author of the North American Bird Conservation Initiative and founder of Waterbird Conservation for the Americas. He founded and chairs the IUCN Heron Specialist Group (HeronCon-

servation) and has served on the governing boards of American Ornithologists' Union, American Bird Conservancy, Hawk Mountain Sanctuary, North American Bird Conservation Initiative, Waterbird Conservation for the Americas, and chaired the Bird Conservation Alliance. He has a PhD from the University of Miami and honorary doctorates from Thiel College and John Cabot University. In South Florida, he has served on the boards of Tropical Audubon Society and Biscayne Nature Center and currently is a member of the boards of Fairchild Tropical Botanic Garden, Zoological Society of Florida, HistoryMiami, and the Everglades Foundation. In addition to *Attracting Birds to South Florida Gardens*, he has written over 200 technical papers and 7 books, including *Birds of Fairchild* and *Images of America: Key Biscayne*.

Photos by David Blecman

JAMES A. KUSHLAN AND KIRSTEN HINES
are available for interviews and appearances.



UNIVERSITY PRESS OF FLORIDA
For more information, contact the UPF Publicity Desk:
(352) 392-1351 x 233 | publicitydesk@upf.com

KIRSTEN HINES is a writer, photographer and environmental educator focused on creative non-fiction, nature photography and conservation. With a master's degree in biology, she grounds her work in biological principles in order to lure readers and viewers into the lives of plants and animals. She has studied tropical frogs, plants and animals in South Florida, Bahamian iguanas, and is a member of the IUCN Iguana Specialist Group, and has served on the board of the Tropical Audubon Society. She has championed Florida's native plants and habitats as coauthor of *Natives for Your Neighborhood*, the online plant conservation resource for South Florida of the Institute for Regional Conservation, where she is a research associate. In addition to *Attracting Birds to South Florida Gardens*, her award-winning photography has appeared in numerous publications, websites, and brochures including *Birds of Fairchild*. She also is coauthor of the book, *Images of America: Key Biscayne*. More of her work can be seen at www.KirstenNatureTravel.com.



Photos by David Blecman

JAMES A. KUSHLAN AND KIRSTEN HINES

are available for interviews and appearances.



UNIVERSITY PRESS OF FLORIDA
For more information, contact the UPF Publicity Desk:
(352) 392-1351 x 233 | publicitydesk@upf.com



Q & A with

**JAMES A. KUSHLAN AND
KIRSTEN HINES**

authors of

Attracting Birds to South Florida Gardens

When did you know that you wanted to write this book? What led you to this subject?

We had spent considerable thought and effort on creating a bird-friendly yard at our Key Biscayne home and in that process discovered that all the books and websites available on gardening for birds were about northern birds and northern plants; none worked for South Florida. Jim was in the process of encouraging the development of a bird conservation program at Fairchild Tropical Botanic Gardens in Miami, hoping to encourage a regional approach to bird conservation. At the same time, Kirsten was focused on encouraging restoration of native South Florida habitats through backyard gardening, particularly within the urban corridor. Our two conservation angles and experiences were perfectly compatible to produce this needed book, and the project developed from there.

You've worked to attract a variety of wildlife to Floridian homes and landscapes for many years. Can you describe the bird habitat you created in your own yard?

We actually followed the advice we give in our book in designing our own yard. The backyard, like many in South Florida, is small and mostly patio, so we created an herb garden, a fruit orchard, and a butterfly garden almost entirely in containers. The side yard contains our vegetable garden and the front yard is dedicated to native plants that have quickly come to resemble native hammock habitat. We have a small mixed species lawn and water features. All these garden elements are heavily used by birds, from migrating warblers to nesting screech-owls—over a hundred species in just a few years.

From ibises to bald eagles, there's a wide variety of birds that can be found in Florida. Do you have a favorite bird that you always hope to attract?

Our primary goal is increasing the number and kinds of native birds that can use our yard. In terms of favorites though, Jim's is having White Ibis as yard birds, one of South Florida's unique yard treats. As for Kirsten, she's attached to the birds that have nested in the yard and looks forward to their return each year - particularly our Red-bellied Woodpeckers, Eastern Screech-owls and Purple Martins.

Has your expertise in biology influenced this book? How about your ideas on conservation?

Absolutely! This book tells not only what to plant and what birds will use it, but why, biologically. Appreciating the biology of the bird and the plant allows the gardener to better predict outcomes. The book starts with an overview of South Florida's natural history—it's geology, climate and native plants and animals. These are the factors that make gardening here so unique and exciting but also provide a basis for understanding what does and doesn't work in a South Florida garden. Throughout the book, we also emphasize that much of South Florida's natural upland habitat has been lost to development but each person can help restore plant cover in their own space. Our book is all about being a part of recreating more natural habitats in private yards and commercial landscaping, which is one of the greatest conservation actions citizens can take in South Florida today. Bird conservation is central to the book's purpose, restoring a bird friendly environment and contributing to the natural re-greening of South Florida.

What's the best piece of advice you can give to someone who's just begun to create a garden?

Don't get overwhelmed. While we suggest that it is best to make an entire yard plan accounting for how you want to use the space, altering a garden can be daunting particularly knowing that needs shift over time. It's ok to start small, perhaps with just one planting area initially. Even one bird friendly plant can be useful. Gardening is a process not a product. If along the way, you decide the plan wasn't quite right for your needs, it's never too late to change; plants grow incredibly quickly in South Florida.

What are you working on next?

We've actually begun working on a similar book for the Bahamas. We've both done research there for many years and conservationist friends of ours were ecstatic to learn of our *Attracting Birds to South Florida Gardens* book. We are pleased that many of the ideas and advice will be applicable to the Bahamas and wider Caribbean. But to the extent that the society and, to some extent, the environment differs from that of South Florida, guidance will differ.

What do you hope readers will gain from this book?

We hope that this book will be both a guide and an inspiration for South Florida's gardeners and birders and also to any one responsible for parks, commercial properties, roadsides, parking lots, or any bit of the landscape. We hope it will encourage individuals to consider contributing to the re-greening of South Florida by landscaping in an environmentally sensitive way, together recreating the South Florida that has been lost.

Attracting Birds
to South Florida Gardens

JAMES A. KUSHLAN AND KIRSTEN HINES

proof

University Press of Florida

Gainesville · Tallahassee · Tampa · Boca Raton

Pensacola · Orlando · Miami · Jacksonville · Ft. Myers · Sarasota

Contents

Preface vii

Acknowledgments ix

Note on Names and Informational Codes xi

1	Introduction	1
2	South Florida's Environmental Setting	9
3	What Birds Need	25
4	The Garden for Birds	77
5	South Florida Garden Birds	95
6	South Florida Bird Plants	155
7	References and Further Study	261

Index 273

3

What Birds Need

The character of a garden, neighborhood, park, or parking lot that will attract birds is rather simple as a generalization: it is some re-creation of aspects of the birds' natural environment. As noted before, birds are attracted to gardens and other areas that provide habitat, which means space, structure, protection, nest sites, feeding sites, food, and all the other things needed by birds for carrying out their lives. Trees, shrubs, vines, short-statured plants, and lawns supply different aspects of a bird's needs. Some birds require special consideration, such as nectar-producing plants. Water features, nest boxes, and feeding stations are artificial elements that mimic resources naturally used by birds. In the following sections, we discuss elements of a South Florida garden that can be used to attract birds.

Trees

Trees are undoubtedly the most important element in attracting birds to a garden, because trees are where most birds will spend most of their time. Traditionally in South Florida, trees are planted as individual well-spaced specimens. Birds will make some use of them, particularly if they are bird-friendly live oaks, slash pines, native figs, or black olives; but in general, isolated trees, especially specimens of non-native trees, function in the garden less like bird habitat and more like statues.

Rather than as single specimens, trees tend to be more beneficial to birds if planted in mixed-species clusters. Clustering allows more species to be planted in available space, increasing the diversity of species, structure, insects, fruit, and timing of food availability. The edges of mixed plantings provide thick, shrubby cover and protection. Mixed-tree plantings are what occur naturally in South Florida's tropical hammocks and pineland understory, and so they are what native birds are used to.

In South Florida, it is exceptionally easy to produce a tree stand that somewhat resembles a native tropical hammock, on even a piece of a small parcel of land. Just plant native hammock trees together and watch them in a few years coalesce into a hammock. The core of a mixed-tree planting for birds in South Florida should be live oaks, native figs, gumbo limbos and one or more large



Trees are essential for attracting birds to a garden but are not very effective as isolated specimens.

Mixed-species tree plantings, especially those emulating the diversity and shrubbiness of native hammock edges, shown here, are best for birds.



palms. If not a native plant purist, a gardener can include non-native trees in these mixed-species stands. Historically, hammocks were used as home sites and camp sites by Indians and early settlers, and as a result most hammocks included non-native trees such as key lime, sour orange, or tamarind as well as Seminole pumpkin, corn, and sugar cane, so some non-native inclusions are not historically incorrect. A planting of hammock trees does best for birds if there are similar tree patches nearby, such as in neighbors' yards, neighborhood parks, and nearby commercial sites. Competition among plants is a way of life in mixed-tree plantings. The gardener can try to manage competition through pruning

or, more easily, can allow the mixed-species area to develop as it will. The trees will fill in the spaces themselves. A mixed-species tree stand creates litter that recycles its nutrients, modifies its microclimate, and withstands the stress of hurricane winds better than individual specimen trees.

In South Florida, it's not easy being a tree. Many native trees are on the edge of their natural ranges (either northward for tropical plants or southward for temperate plants), meaning they are pushing the limits of compatible environmental conditions. Non-native trees, too, are mostly outside their optimal range of conditions. South Florida's trees are periodically knocked back by hurricanes and challenged by periodic droughts, and tropical trees additionally suffer frequently in freezes. Temperate trees requiring some number of days of cool temperatures during the winter do not fruit. South Florida's trees face a paucity of topsoil, unfriendly limestone rock or sand or marl, high water tables, and fast-growing competition. As a result, many species do not do well here.

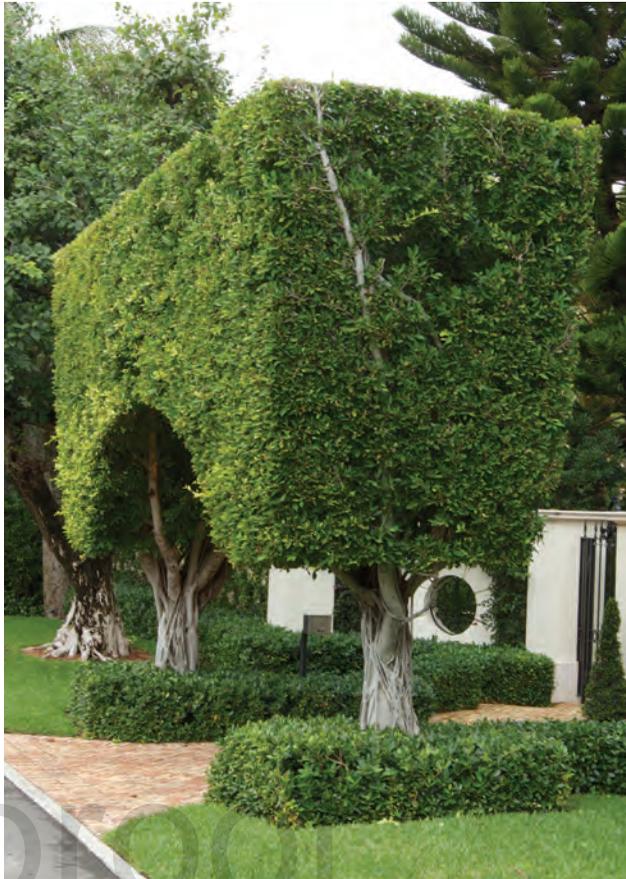
Trees that do well in most of South Florida need to be adapted to survive in alkaline soils. They also need to thrive through the dry season and the warm wet summer. Many South Florida trees are shallow rooted, a feature quite typical of tropical trees, which have to compete for fast-cycling nutrients at the soil's surface. Few South Florida native trees have the taproots characteristic of temperate trees.

In South Florida, most trees are not very tall, averaging perhaps 30–60 feet. If left without hurricanes, some native trees do have greater potential, perhaps 60–70 or more feet, but such expression is unusual given the frequency of destructive forces. Normal-sized South Florida trees are no more than middle-story size in bona fide temperate or tropical forests. A few native trees and many more non-native trees can breach this height, adding an emergent story to the canopy that provides additional opportunities for large birds that would otherwise pass a garden by. On the other hand, the short height of most of South Florida's trees means that they can be fit into smaller spaces.

That most South Florida trees are rather short also means that the difference between trees and shrubs is not all that great. A plant may function as one or the other or both successively as it grows. This mimics what occurs naturally in tropical hammocks, where a plant might be a long-term seedling, then a shrub, and then a tree, depending on any number of factors such as shading, soil, fire history, water table, disturbance, and time.

Trees most appropriate for any garden will differ depending on its location. In more southerly and coastal gardens, more tropical plants can be used. In more northern or inland gardens, more temperate plants can be used. To see what grows well, it is worthwhile to study the neighborhood and to visit nearby natural areas in parks, public landscaping, and recent highway plantings. And to experiment.

Managing garden trees is very different in South Florida than further north, with tree pruning being one of these differences. A tree pruned of its branches,



Overly sculpting trees and hedges robs them of much of their wildlife value.

especially dead branches, loses much of its value to birds. The ultimate example is a “hat-racked” tree, its branches cut to stubs, essentially starving both the tree and its birds. A tree sculpted into some desired non-natural shape provides no advantage for birds over a natural tree shape. Why such highly trimmed trees are desirable is not clear, since a concrete statue would be easier to maintain and not require subsidizing workers to keep it trimmed.

Even less extreme pruning, however, can be disadvantageous to birds. Plants and birds need dying and dead branches. This is especially so for palms. Each palm species holds onto its fronds in a characteristic way, dropping them when biologically appropriate. Royal palms self-prune leaves as they die; cabbage palms self-prune at the stem, leaving the bract on the trunk; coconut trees hold onto their leaves for some time. In a bird garden, palms should not be pruned of their dying and dead branches because these provide exceptional habitat for birds as well as for insects, reptiles, and bats. In a South Florida bird-friendly garden, there is little need for massive pruning, removal of dead wood, or painting of wounds.

There are exceptions, of course, to the nonpruning rule. Fruit trees may need a bit of trimming to increase production. Large exposed specimen trees may

need trimming to reduce top growth relative to roots. And judicious pruning may be needed for clear and imminent safety concerns, like frail limbs over or touching structures, coconuts over a sidewalk, or limbs low enough and in the wrong place such that visitors might walk into them. When choosing where to plant a tree, avoid situations where it will eventually have to be pruned, such as under utility lines or over roofs. Once a tree is planted in the wrong place or gets in the way of the utility company's business, there will be no recourse when the crews with their big machines arrive.

Whenever possible, for birds, pruning should be avoided and dying and dead branches should be left in place to decay naturally. Even more of a case can be made for dead trunks. In a South Florida garden meant to attract birds, dead trees are as important as live ones. Trees die from disease, old age, lightning, wind, root abuse, or any number of indeterminable causes. South Florida's native tropical trees, being mostly pioneering species, tend to be short-lived in any case. Normal gardening protocol calls for removing failing trees and eliminating dead snags. But not in a South Florida bird garden. Birds need dead trunks. Woodpeckers and other trunk-foraging birds search out insects lurking under dead trunk bark. Cavity-nesting birds use dead trunks for their nesting. Some dead trees hold their dead branches for some time, essentially setting out a buffet of invertebrate bird food.

Dead trees are extremely important in a South Florida yard as many species depend on them for roosting, feeding, and nesting. Here an Eastern Screech-Owl roosts in a dead trunk.



Even in neighborhoods with strict landscaping ordinances, dead trees can often be left standing by the gardener. As indicated by the holes in this dead palm, they will be used by birds, for feeding and also for perching, roosting, and nesting.



Admittedly, sometimes, there are local regulations to deal with; but even in highly controlled neighborhoods, trees can often be left standing, especially if they are within larger plantings and do not pose safety concerns to the wider community. If one is so unfortunate as to lack dead trees, one might consider importing them.

Specific trees that might be chosen for South Florida bird gardens are discussed elsewhere, but the choices are ample, much more so than for any northern bird garden. As noted above, oaks, figs, and palms stand out as being nearly essential to any South Florida bird-attracting garden big enough to accommodate them. Many other native species and topical fruit trees are also highly recommended, including citrus, avocado, mango, and papaya. And there are some trees, both native and non-native, that apart from their bird-friendly rating are so characteristic of South Florida, they demand to be planted in almost any garden.

A list of the ten most important options for trees and tree-sized plants and a list of the birds that might characteristically be seen in trees in the garden are provided below.

PLANTS

Black Olive	Native figs
Buttonwood	Seagrape
Coconut Palm	Slash Pine
False Tamarind	West Indian
Gumbo Limbo	Mahogany
Live Oak	

BIRDS

Amazon parrots	Monk Parakeet
Blue-gray Gnatcatcher	Mourning Dove
Blue Jay	Northern Cardinal
Boat-tailed Grackle	Northern Mockingbird
Common Grackle	Northern Shrike
Conures	Red-bellied Woodpecker
Cooper's Hawk	Ruby-throated Hummingbird
Eastern Kingbird	Swallow-tailed Kite
Eastern Phoebe	Thrushes
Eastern Screech-Owl	Warblers
Eurasian Collared-Dove	White-crowned Pigeon
Fish Crow	White-winged Dove
Gray Kingbird	Vireos
Great Crested Flycatcher	

Shrubs

The next element to consider for birds in a garden is the shrub layer. Shrubs play a large role in the overall look and feel of a garden, since they are at eye level, and they provide much of the vegetative bulk of the garden used by small to medium-sized birds. If well selected and arranged, they can provide much of the garden's fruit, nectar, insects, nesting sites, perching sites, and sleeping and roosting sites. Shrub plantings are where many foraging and sheltering birds will spend their time. A garden without shrubs under and surrounding the trees will not do well in attracting and holding birds. This principle is particularly important for public gardens and other public spaces to follow, as they are often beset by contrary views and see their shrubs repeatedly hacked away.

The role of shrubs in predator protection in suburban and urban gardens should not be underappreciated; outdoor cats are devastating to backyard birds and are disrupted in their hunt by thick, thorny, and densely branched shrubs. These provide in-garden protection that birds can rely on, especially if placed where birds are most vulnerable, such as near feeders, water features, property edges, and plant zone transitions.

Garden shrubs are best for birds if diverse, thick, and unpruned.



Shrubs can be used in many ways in a bird-friendly garden, including as stand-alone specimens, accents, visual barriers, hedges, backdrops for shorter plantings, butterfly/hummingbird gardens, understory, or edges for tree plantings. Mixed-species plantings are most productive for birds. Birds love hedgerows, and the South Florida equivalent of the northern hedgerow is the nearly impenetrable hammock edge composed of diverse tropical shrub-sized plants. The gardener's goal should be to produce as many linear feet of edge comprising diverse shrubs as might be possible.

There is always the urge to excessively prune, thin, hedge, top, and otherwise manipulate shrubs into predetermined stages of submission. Yard-care workers, park maintenance crews, and most landscapers are deadly to shrub plantings. In South Florida, a garden helper with a cultural fondness for the machete can quickly spell disaster for shrub-dwelling birds. As is the case with trees, pruning and tight hedging are generally of no value to birds, nor are shrub topiaries.

Because plant growth is rampant in South Florida, some judicious trimming may indeed be necessary. Cutting back of shrubs is needed when they outgrow their allotted space, impinge on sites reserved for sun, compete with less hardy plants, or demonstrate an unwanted aspiration to become trees. A garden for birds needs to be composed primarily of shrubs—as many, as dense, and as diverse as possible. Trim shrubs only when safety or the integrity of the garden's design requires it, but for the most part, let shrubs do their thing and fill in their spaces.

There are hundreds of native and non-native shrubs South Florida bird gardeners can consider. Short palms and native tropical shrubs with bird-sized fruit are distinctive options for South Florida bird-attracting gardens. Spiny shrub-sized plants are available for cover and protection. Also in South Florida, as

mentioned, the difference between shrubs and trees is not distinct. Many plants may be shrubs or trees depending on the situation or the trimming regime, and many plants are shrubs at one stage but eventually, under the right circumstances, can grow into trees. Various options will be discussed in chapter 6, but a list of important shrub-sized bird plants and typical birds that use them are listed below.

PLANTS

Buttonsage	Palmettos
Cocoplum	Sensitive plants
Firebush	Stoppers
Hollies	Wax Myrtle
Marlberry	Wild coffees

BIRDS

Blue Jay	Orioles
Brown Thrasher	Red-winged Blackbird
Common Grackle	Ruby-throated Hummingbird
Common Ground-Dove	Thrushes
Eastern Phoebe	Vireos
Gray Catbird	Warblers
Mourning Dove	Wrens
Northern Cardinal	Yellow-billed Cuckoo
Northern Mockingbird	
Northern Shrike	

Vines

Vines tend to be overlooked by gardeners, except to cover trellises, but should not be as they provide superior structure for birds where otherwise none would exist. In nature, vines are entangled within the branches of trees and shrubs where they fill voids. Ideally, every tall tree in a South Florida bird garden should have one or two vines assigned to it. The primary function of vines in a South Florida bird-friendly garden is to increase structural complexity by filling in space within and on top of the shrub and tree canopy. Vines in such a situation provide roost and nest sites, and for some species, food.

Vines can also be used as stand-alone features, climbing trellises, fences, or walls. Fences are a way of life in suburban South Florida and can be helpful in a bird garden to deter depredating cats, roaming dogs, and clueless neighbors. Vine-covered fences provide protection, nest sites, and, with proper selection, food for birds.



Vines contribute structure and cover within a bird garden. Here bougainvillea's dense, thorny branches provide ideal protection for this Northern Mockingbird nest.

The vine list for South Florida, native or otherwise, is somewhat slim. Poison ivy is the most important bird vine of South Florida. Although not welcomed in most gardens, it should be, though perhaps toward the back fence. Here is a list of the top ten bird vines to consider and birds that may be expected to use vines.

PLANTS

Bougainvillea	Muscadine
Cape Honeysuckle	Passionflowers
Coral Honeysuckle	Poison Ivy
Golden Trumpet	Virginia Creeper
Greenbriers	White Twinevine

BIRDS

Blue-gray Gnatcatcher	Northern Mockingbird
Brown Thrasher	Orioles
Carolina Wren	Ruby-throated Hummingbird
Gray Catbird	Vireos
House Sparrow	Warblers
Northern Cardinal	